

MR1035-820

Serial Number: 09/781,283

Amendment Dated 28 October 2003

Reply to Office Action dated 30 July 2003

### **AMENDMENTS TO THE CLAIMS**

The following listing of claims will replace all prior versions, and listing of claims in the application:

### **LISTING OF CLAIMS:**

Claim 1 (Currently amended): A planarization method of inter-layer dielectrics, comprising the steps of:

    providing a semiconductor substrate including a field oxide, a source, a drain, and a gate formed thereon;

    forming a dielectric layer used as an inter-layer dielectric on said semiconductor substrate, said dielectric layer being formed with a thickness in the range of 3000 - 15000 angstroms;

    lapping said dielectric layer by means of a chemical mechanical polishing; and

    forming on said lapped dielectric layer a cap layer of silicon nitrogen-oxide ~~to have~~ having a thickness in the range of 300 - 2000 angstroms and a refractive index of at least 1.6, wherein said cap layer is translucent to ultra-violet light.

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Claim 2 (Original): The planarization method of inter-layer dielectrics as claimed in claim 1, wherein said gate comprises from bottom to top a tunneling oxide layer, a floating gate, a dielectric layer, and a control gate.

Claim 3 (Original): The planarization method of inter-layer dielectrics as claimed in claim 2, wherein said floating gate and said control gate are composed of polysilicon.

Claim 4 (Original): The planarization method of inter-layer dielectrics as claimed in claim 1, wherein said dielectric layer is a borophosphosilicate glass layer.

Claims 5 - 8 (Cancelled).

Claim 9 (Currently amended): A planarization method of inter-metal dielectrics, comprising the steps of:

providing a semiconductor substrate having a plurality of metal-interconnects formed thereon;

forming a dielectric layer used as an inter-metal dielectric on said substrate, said dielectric layer being formed with a thickness in the range of 3000 – 15000

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angstroms;

lapping said dielectric layer by means of a chemical mechanical polishing;  
and

forming on said lapped dielectric layer a cap layer of silicon nitrogen-oxide  
~~to have~~ having a thickness in the range of 300 - 2000 angstroms and a refractive index of  
at least 1.6, wherein said cap layer is translucent to ultra-violet light.

Claim 10 (Original): The planarization method of inter-layer dielectrics as claimed  
in claim 9, wherein said metal-interconnect is composed of aluminum, aluminum-copper  
alloy, aluminum-silicon-copper alloy, or copper.

Claim 11 (Original): The planarization method of inter-layer dielectrics as claimed  
in claim 9, wherein said dielectric layer is a phosphosilicate glass layer.

Claim 12 (Original): The planarization method of inter-layer dielectrics as claimed  
in claim 9, wherein said dielectric layer is a fluorosilicate glass layer.

Claim 13 (Original): The planarization method of inter-layer dielectrics as claimed

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in claim 9, wherein said dielectric layer is a low K dielectric layer.

Claim 14 (Currently amended): The planarization method of inter-layer dielectrics as claimed in claim 9, wherein said dielectric layer is a silicon oxide layer formed by means of ~~the~~ plasma enhanced chemical vapor deposition.

Claim 15 (Currently amended): The planarization method of inter-layer dielectrics as claimed in claim 9, wherein said dielectric layer is a tetraethyl-orthosilicate layer formed by means of ~~the~~ plasma enhanced chemical vapor deposition.

Claims 16 - 19 (Cancelled).